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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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LE, HUYEN D

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 05/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,430

Applicant(s)

VAN HALTEREN ET AL.

Examiner

HUYEN D. LE

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-36 is/are pending in the application.  
4a) Of the above claim(s) 12-26 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 8-11 and 27-36 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☒ Claim(s) 12-26 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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***Election/Restrictions***

1. It appears that claims 8-11 and 27-36 are pending (see the Remarks filed 01/21/04). The withdrawn claims 12-26 should be canceled in the application.

***Claim Rejections - 35 USC § 112***

2. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 is dependent on the withdrawn claim 12.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8-11, 27 and 29-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sone (U.S. patent 5,432,758).

Regarding claims 8 and 30, Sone teaches a coil assembly for an electroacoustic transducer which comprises a coil (20) and an electric circuit board (40, 42, 44, 48, 50, 52, figures 1, 2, 7, 8, 9). As shown in the drawings, at least a surface portion of the electric circuit board is positioned against the coil in a substantially perpendicular to the axis of the coil (20).

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Regarding claim 9, as broadly claimed, the printed circuit board (40, 42, 44, 48, 50, 52) is flexible (col. 4, lines 27-43, col. 6, lines 11-19 and lines 65-67).

Regarding claim 10, Sone teaches the printed circuit board which is rigid (col. 4, lines 15-18 and lines 27-33 and col. 6, lines 8-10).

Regarding claim 11, Sone shows the electric circuit board which includes an opening (58) as claimed.

Regarding claim 27, Sone teaches the surface portion of the electric circuit board which is positioned against the coil by adhesion (col. 4, lines 57-61 and col. 6, lines 61-68 through col. 7, lines 1-5).

Regarding claim 29, Sone teaches the electric circuit board which includes electronics for signal processing (col. 4, lines 30-41).

Regarding claims 31 and 36, Sone teaches a coil assembly for an electroacoustic transducer which comprises a coil (20) and an electric circuit board (40, 42, 44, 48, 50, 52, figures 1, 2, 7, 8, 9). As shown in the drawings, at least a surface portion of the electric circuit board is positioned against the coil in a substantially perpendicular to the axis of the coil (20). Further, Sone teaches the electric circuit board which includes electronics for signal processing (col. 4, lines 30-41).

Regarding claim 32, as broadly claimed, the printed circuit board (40, 42, 44, 48, 50, 52) is flexible (col. 4, lines 27-43, col. 6, lines 11-19 and lines 65-67).

Regarding claim 33, Sone teaches the printed circuit board which is rigid (col. 4, lines 15-18 and lines 27-33 and col. 6, lines 8-10).

Regarding claim 34, Sone shows the electric circuit board which includes an opening (58) as claimed.

Regarding claim 35, Sone teaches the surface portion of the electric circuit board which is positioned against the coil by adhesion (col. 4, lines 57-61 and col. 6, lines 61-68 through col. 7, lines 1-5).

5. Claims 8-9 and 31-32 rejected under 35 U.S.C. 102(b) as being anticipated by Lee (U.S. patent 5,861,686).

Regarding claims 8 and 31, Lee teaches a coil assembly for an electroacoustic transducer which comprises a coil (8) and an electric circuit board (3b, figures 1, 2, 3). As shown in the drawings, at least a surface portion of the electric circuit board is positioned against the coil in a substantially perpendicular to the axis of the coil (8). The electric circuit board includes signal processing electronics (col. 3, lines 65-67).

Regarding claims 9 and 32, Lee teaches the electric circuit board (3b) is flexible (col. 3, lines 41-42 and lines 49-51).

6. Claim 8 is rejected under 35 U.S.C. 102(a) as being anticipated by Kuwabara et al. (U.S. patent 6,023,518).

Kuwabara teaches a coil assembly for an electroacoustic transducer which comprises a coil (22) and an electric circuit board (26, figures 1, 4, 5). As shown in the drawings, at least a surface portion of the electric circuit board is positioned against the coil in a substantially perpendicular to the axis of the coil (22).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9-10, 29 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (U.S. patent 6,023,518).

Regarding claims 9-10 and 33, Kuwabara teaches a printed circuit board (26). Kuwabara does not specifically teach that the circuit board (26) is flexible or rigid as claimed. However, the examiner takes the Office Notice that providing a printed circuit board in an electronic device made of flexible or rigid material is very well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the circuit board (26) of Kuwabara which is made of flexible or rigid material for an alternate choice.

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Regarding claims 29 and 31, Kuwabara teaches a printed circuit board (26). Kuwabara does not specifically teach that the circuit board (26) includes signal processing electronics as claimed. However, the examiner takes the Office Notice that providing a printed circuit board in an electronic device included the electronic components for signal processing is very well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the circuit board (26) of the Kuwabara sound generator which includes the electronic components for processing the signals.

#### ***Response to Arguments***

8. Applicant's arguments with respect to claims 8-11 and 27-36 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoo et al. (U.S. patent 6,389,148) teaches a coil which is mounted on a terminal plate.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (703)305-4844. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HL  
May 14, 2004

  
HUYEN LE  
PRIMARY EXAMINER